

CLAIMS

What is claimed is:

1. A motor vehicle control system comprising:
a rotary scroll wheel coupled to a switch and mounted on a steering wheel rim of a motor vehicle and configured to adjust a function of the motor vehicle;
- 5 a control unit electrically coupled to the switch and configured to receive a signal from the switch and to cause adjustment of the function in response to the signal.
2. The motor vehicle control system of claim 1 further comprising a display coupled to the control unit and configured to display an indication of the function.
3. The motor vehicle control system of claim 1 wherein the switch comprises a rotary switch actuatable by rotating the scroll wheel about an axis and a linear switch actuatable by pressing the scroll wheel in a direction substantially perpendicular to the axis.
4. The motor vehicle control system of claim 3 wherein the axis is parallel to a radius of the steering wheel rim.
5. The motor vehicle control system of claim 1 wherein the rotary scroll wheel comprises a circular portion rotatable about an axis and having a crenulated periphery.
6. The motor vehicle control system of claim 5 wherein the rotary switch is configured to provide feedback if the circular portion is rotated through a predetermined number of degrees.

7. The motor vehicle control system of claim 1 wherein the rotary scroll wheel can be positioned at a location on the steering wheel at the discretion of a motor vehicle operator.

8. A motor vehicle control system comprising:
a plurality of rotary scroll wheels and a plurality of switches, each of the plurality of switches coupled to and actuable by one of the plurality of rotary scroll wheels, and each of the plurality of rotary scroll wheels mounted
5 on a steering wheel rim of the motor vehicle, at least one of the plurality of rotary scroll wheels mounted in an upper right hand quadrant of the steering wheel rim and at least one of the plurality of rotary scroll wheels located in an upper left hand quadrant of the steering wheel rim; and
a control unit electrically coupled to each of the plurality of
10 switches and configured to cause a motor vehicle function to react to a signal received from at least one of the plurality of switches.

9. The motor vehicle control system of claim 8 further comprising a display unit coupled to the control unit and configured to display an indication of the motor vehicle function.

10. The motor vehicle control system of claim 8 further comprising a plurality of display units, each coupled to the control unit and each responsive to a signal from a respective one of the plurality of switches to display an indication of a motor vehicle function.

11. The motor vehicle control system of claim 8 wherein each of the plurality of rotary scroll wheels can be positioned at a location on the steering wheel at the discretion of a motor vehicle operator.

12. The motor vehicle control system of claim 8 wherein each of the plurality of rotary scroll wheels can be configured in association with a specific motor vehicle function and each of the plurality of rotary scroll wheels can be configured cause a specified motor vehicle function to react to a
5 signal from an associated one of the plurality of rotary scroll wheels.

13. The motor vehicle control system of claim 8 wherein at least two of the plurality of rotary scroll wheels can be configured to cause a single motor vehicle function to react to signals received from the at least two of the plurality of rotary scroll wheels.

14. The motor vehicle control system of claim 8 wherein each of the plurality of switches comprises a rotary switch actuatable by rotation of a rotary scroll wheel about an axis and a linear switch actuatable by movement of the rotary scroll wheel in a direction substantially perpendicular to the axis.

15. The motor vehicle control system of claim 14 wherein the axis is substantially parallel to a radius of the steering wheel rim.

16. The motor vehicle control system of claim 14 wherein the rotary switch is configured to provide feedback upon rotation of the rotary scroll wheel through a predetermined number of degrees of rotation.

17. The motor vehicle control system of claim 14 wherein the linear switch is configured to provide feedback upon activation.

18. The motor vehicle control system of claim 8 wherein the rotary scroll wheel comprises a generally circular cross section having a crenulated periphery.

19. A method for controlling a motor vehicle function in a motor vehicle having a plurality of rotary scroll wheels mounted on a steering wheel of the motor vehicle, each rotary scroll wheel controlling one of a plurality of rotary switches and one of a plurality of linear switches, each of the plurality of rotary switches and each of the linear switches coupled to a control unit and
 5 the control unit coupled to a display, the method comprising the steps of:

programming the control unit to cause a menu comprising a plurality of motor vehicle functions to be displayed on the display in response to rotation of one of the plurality of rotary switches by rotation of one of the plurality of rotary scroll wheels;
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programming the control unit to select one of the plurality of motor vehicle functions in response to activation of one of the linear switches;

programming the control unit to cause a submenu comprising a plurality of options for the selected one of the plurality of motor vehicle functions to be displayed on the display in response to activation of the one of the plurality of linear switches;
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programming the control unit to cause one of the plurality of options to be selected in response to further rotation of the one of the plurality of rotary switches by the rotation of the one of the plurality of rotary scroll wheels; and
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programming the control unit to cause the one of the plurality of options to be activated in response to further activation of the one of the plurality of linear switches.

20. The method of claim 19 further comprising the step of programming the control unit to cause a change in the speed of the motor vehicle in response to rotation of a second of the plurality of rotary scroll wheels.

21. The method of claim 19 wherein the step of programming the control unit to cause a menu comprising a plurality of motor vehicle functions to be displayed on the display comprises the step of programming the control unit to cause a menu comprising entertainment system, HVAC system and
 5 cruise control to be displayed on the display.

22. The method of claim 19 further comprising the step of programming the control unit to cause a preselected menu item to be selected in response to double clicking one of the plurality of linear switches.

23. The method of claim 19 further comprising the step of programming the control unit to cause a preselected menu item to be displayed in response to pressing and holding for a predetermined length of time one of the plurality of linear switches.

24. The method of claim 19 further comprising the step of programming the control unit to inactivate the plurality of scroll wheels in response to the steering wheel being rotated by a predetermined amount.

25. A motor vehicle control system comprising:
 a plurality of rotary scroll wheels and a plurality of switches, each of the plurality of switches comprising a rotary switch and a linear switch coupled to and actuable by one of the plurality of rotary scroll wheels, and each of the
 5 plurality of rotary scroll wheels mounted on a steering wheel rim of the motor vehicle;
 a control unit electrically coupled to each of the plurality of switches; and
 a display unit coupled to the control unit;
 wherein the control unit is configured to cause a display of a menu of motor
 10 vehicle functions on the display unit in response to activation of one of the plurality of switches.

26. The motor vehicle control system of claim 25 wherein the control unit is further configured to activate one of the plurality of menu of motor vehicle functions in response to rotation of one of the plurality of rotary scroll wheels to select the one of the plurality of menu of motor vehicle
5 functions and confirmation of the selection by pushing the one of the plurality of rotary scroll wheels to click one of the plurality of linear switches.

27. The motor vehicle control system of claim 25 wherein the control unit is further configured to activate a cruise control system in response to rotation of a second one of the plurality of switches.

28. The motor vehicle control system of claim 27 wherein the control unit is configured to change the speed of the motor vehicle in response to rotation of the rotary scroll wheel.